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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,642	09/15/2003	Chun-Hsiang Tsai	0941-0833P	7999
2292	7590	05/05/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LAMB, CHRISTOPHER RAY	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/661,642		TSAI, CHUN-HSIANG	
	<b>Examiner</b>		<b>Art Unit</b>	
	Christopher R. Lamb		2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Tsai et al. (US 2002/0145961).

Regarding claim 1, Tsai discloses a method of determining a track pitch of a disc in a disc drive (abstract), comprising the steps of:

reading first time information (Tsai finds the start of the lead-in, paragraph 22, so must read address or time information to do so) and counting a first frame count of one revolution (paragraph 20) at a predetermined first position with a first radius to the center of the disc (paragraph 22);

(Regarding the frame count, in paragraph 20 Tsai specifically discloses counting a big-clock signal to determine a data amount. However, Tsai discloses that the application may actually read a “feature pattern” such as an ATIP sync signal in paragraph 31 to determine the bit-clock. Since there is one ATIP sync signal per ATIP frame, Tsai is reading a frame signal to determine a frame count, which may be

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multiplied by a constant, as in paragraphs 23-24, to determine the bit clock and data amount).

reading second time information and counting a second frame count of one revolution at a second position with a second radius to the center of the disc (paragraph 28);

calculating the second radius according to the first frame count, the second frame count and the first radius (paragraph 28; equation 3); and

calculating a track pitch of the disc according to the first radius, the second radius, the first time information, the second time information and a linear velocity of the disc drive (paragraph 29; equation 4).

Regarding claim 2, in Tsai the first radius is the distance from a beginning position of a data area of the disc to the disc center (paragraph 22).

Regarding claim 3, in Tsai the second radius is calculated according to the claimed equation (Tsai equation 3 is identical; Tsai's  $R_1$ ,  $R_2$ ,  $M_1$ , and  $M_2$  correspond to Applicant's  $r_0$ ,  $r_1$ ,  $F_0$ ,  $F_1$  respectively).

Regarding claim 4, in Tsai the first time information and the second time information are recorded in Q-Code (this is inherent).

Regarding claim 5, Tsai's equation 4 is equivalent to the claimed equation, which becomes clear after a little algebra. Equation 4 is:

$$t = \frac{75\pi}{n\beta} \left( \left( \frac{M_2}{M_1} \right)^2 - 1 \right) R_1^2$$

Rearranged, this becomes:

$$t = \frac{75}{n\beta} \left( \pi \left( \frac{M_2}{M_1} \right)^2 R_1^2 - \pi R_1^2 \right)$$

Substituting Tsai's equation 3 yields:

$$t = \frac{75}{n\beta} (\pi R_2^2 - \pi R_1^2)$$

Rearranged for clarity:

$$t = \frac{\pi R_2^2 - \pi R_1^2}{(n/75)\beta}$$

This is the claimed equation: Tsai's  $R_2$ ,  $R_1$ , and  $\beta$  are equivalent to Applicant's  $r_1$ ,  $r_0$ , and  $v$ , and as noted in paragraph 27,  $n/75$  represents the elapsed time between positions, so Tsai's  $(n/75)\beta$  is equivalent to Applicant's  $(N_1 - N_0) \times 60 \times v$ .

Regarding claims 6-10, Tsai discloses a disk drive (paragraph 2), comprising an optical head (paragraph 37), and a processor used to perform the claimed steps (the processor is inherent; the claimed steps have already been discussed with regards to the previous claims).

Regarding claims 11-15, all elements positively recited have already been discussed with regards to the previous claims (in particular, note that the equation of claim 14 is still equivalent to Tsai's equation 4, since Tsai's first position is at the beginning of the disc).

### ***Conclusion***

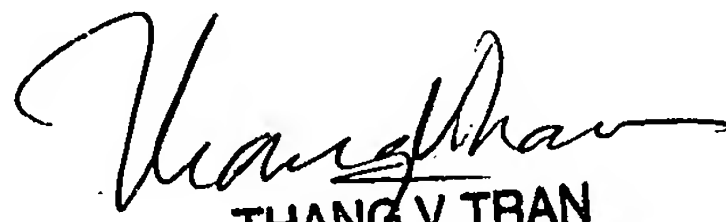
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi (US 6,751,174).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CRL 5/2/06

  
THANG V. TRAN  
PRIMARY EXAMINER